ABSTRACT

A thermostatic control valve assembly for use in continuously mixing a hot first fluid with a cold second fluid to continuously produce a mixed fluid at a constant temperature. The valve assembly includes an improved mixing dome defining a mixing chamber that facilitates thorough mixing of the hot and cold fluids over a wide range of flow rates, including rates as low as two gallons per minute. The improved mixing performance is accomplished by a plurality of baffles sequentially disposed along the flow path within the mixing chamber and extending at an angle in opposition to the flow path. Each baffle exhibits a paisley shape and is angularly displaced from the adjacent baffles to turn the fluid flow, thereby optimally mixing the hot and cold fluids over a wide range of flow rates while minimizing the pressure drop between the valve inlet and outlet.